SHRI MATA VAISHNO DEVI UNIVERSITY, KATRA
School of Electronics and Communication Engineering
B. Tech. (ECE/) Minor-1 Examination (Odd) 2019-20

Entry No: 17BEC033 | Total Number of Pages: [01]

Date: 30/Sep/2019 | Total Number of Questions: [04with sub part]

Course Title: Multimedia Communication | Course Code: ECE4190

Time Allowed: 1.5 Hours | Max Marks: [30]

Instructions / NOTE

i. Attempt All Questions.
ii. Assume an appropriate data / information, wherever necessary / missing.

Section – A

Answer the following:

a. What are the important principles behind different Multimedia information representation? 3

b. Describe in detail QOS Solutions for Multimedia Applications. list their strengths and short comings clearly 5

c. Describe in detail the meaning of Gatekeeper w.r.t. to Multimedia communication. List their shortcomings, strength, its application areas and compulsory services it can provides 3

Q2. a) List and describe in brief categories of Multimedia Application with examples. 3

b) Network QoS Vs Application QoS. 3

c) Explain the JPEG and JPEG 2000. Differences along with the block diagram 3

d) What do you mean by Orthogonal Transforms? 3

e) LZW code with example

Section – B

Q3 a. Assuming a complex signal with two signals x1 and x2. whereas x1 has bandwidth from 50Hz to 10 KHz and that of x2 is 15 to 20 KHz. Digitizer based on Nyquist criteria with 123 bits /sample for x1 and 16 bits/sample for x2 is utilized. Calculate the total memory required for storing the x1 and x2 on in the computer for the length of 10 minutes. 3

Q4. b. The characters a to h have the set of frequencies based on the first 8 Fibonacci numbers as follows: a : 1, b : 1, c : 2, d : 3, e : 5, f : 8, g : 13, h : 21 . A Huffman code is used to represent the characters. What is the sequence of characters corresponding to the following code 110111100111010 3+3

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Entry No: 17BEC033

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Date: 3/Dec/2019

Total Number of Questions: [04with sub parts]

Course Title: Multimedia Communication

Course Code: ECE4190

Time Allowed: 3 Hours

Max Marks: [50]

Instructions / NOTE NO CONTINUATION SHEET

Attempt All Questions. Assume an appropriate data / information, wherever necessary / missing.

Section – A

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Q1. Answer the following: 1*10 — 10

1. A video consists of a sequence of…
2. If frames are displayed on screen fast enough, we get an impression of…
3. H.323 uses G.71 or G.723.1 for….
4. In Video Compression, an independent frame that is not related to any other frame is called…
5. RTP uses a temporary even numbered….
6. In Joint Photographic Experts Group (JPEG), a gray scale picture is divided into blocks of size …
7. In Real Time Interactive Audio Video, conferencing requires two way communication between….
8. In Real Time Interactive Audio Video, Jitter is introduced in real-time data by delay between….
9. In Real Time Interactive Audio Video, data are stored in buffer at a possibly variable…
10. In temporal compression, redundant frames are….

Q2. Write Short Notes 1*10 — 10

1. Multimedia applications
2. SMIL
3. Video conferencing benefits and barriers
4. Multicast
5. Synchronization Specification
6. MPEG 1 ,2
7. JPEG Vs JPEG 2000
8. Audio and Video Compression Principle
9. Network QoS and application QoS
10. Multimedia Networking: Goals and Challenges

30

Section – B

Q3 3*3 — 9

a. Describe in detail Synchronization in Multimedia Systems.
b. Explain the reference model for Multimedia Syncronisation.
c. Explain Synchronization in a Distributed Environment

Q4. Explain in Detail 3*4 — 12

a) Transmission of multimedia content over a high-speed network such as ATM for multimedia application like VOD
b) RSVP --- Resource ReSerVation Protocol and its features
c) RTP --- Real-time Transport Protocol
d) RTSP---Real-Time Streaming Protocol

Q5 Explain DCT2 and IDCT2 with an example. Show that the DCT2 transformed image block of 8*8 has maximum information in its top left corner — 4+5